Therapy, Mental Health, and Human Capital Accumulation among Adolescents in Uganda

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April 8, 2025

Abstract

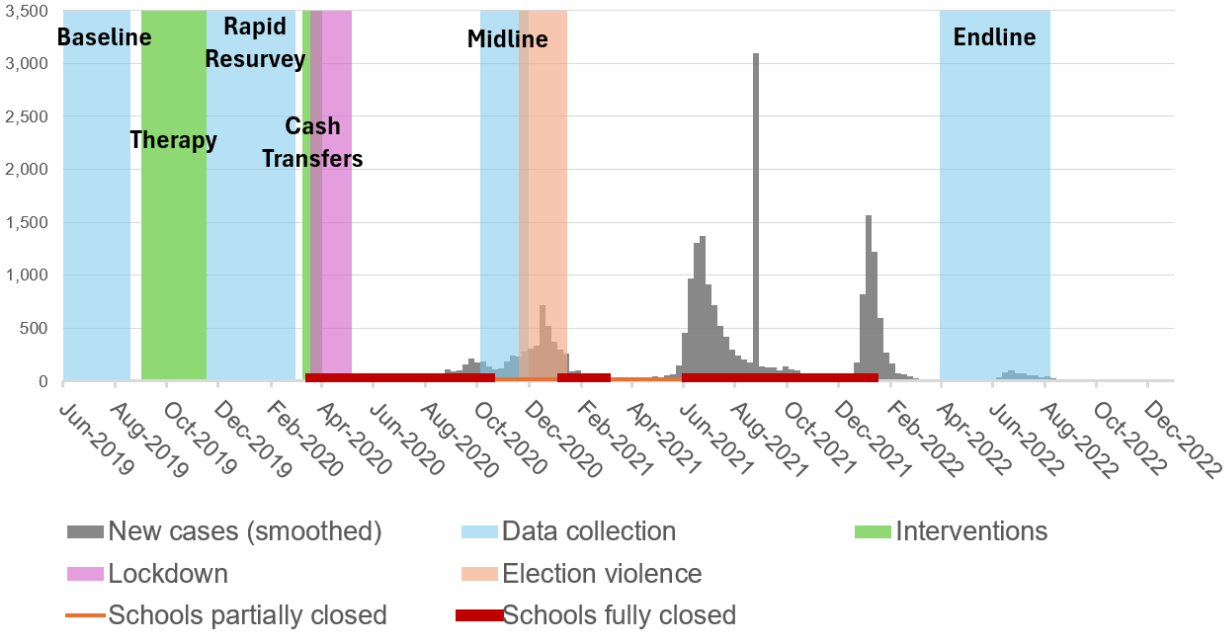
Using a cluster-randomized controlled trial, this study evaluates the impact of group-based interpersonal therapy (IPT-G) on mental health and human capital accumulation among adolescent girls in Uganda who were at risk of moderate to severe depression at baseline. The study was designed to test whether lay provider–led IPT-G for adolescents could be effectively implemented using modest resources in a low-income country. It also tested whether a lump-sum cash transfer offered at the end of therapy provided any additional benefit. The therapy intervention alone increased the share of individuals with no depression by 5.4 percentage points (from 18.4% in the control group) 12 months after therapy, but these effects dissipated by the 30-month follow-up. Similarly, small positive effects on human capital accumulation at 12 months were not sustained at 30 months. Surprisingly, the marginal effect of offering cash transfers to IPT-G beneficiaries was large and negative on their mental health, persisting two years after baseline. The paper provides suggestive evidence that the adolescents were frustrated by their inability to use the cash toward their own goals because of the need to divert funds toward the essential needs of their families during the COVID-19 pandemic.

Keywords: adolescence, mental health, group interpersonal psychotherapy, cash transfers, COVID-19

JEL Codes: O10, C93, I15, J16, J13

1 Figures

Figure 1: Study Timeline



Sources: Case data obtained from Our World in Data COVID-19 case trackers; School closures data from UNESCO's Global Monitoring of School Closures; Reporting on election violence by Human Rights Watch; Reporting on the lockdown by Reuters COVID-19 response trackers.

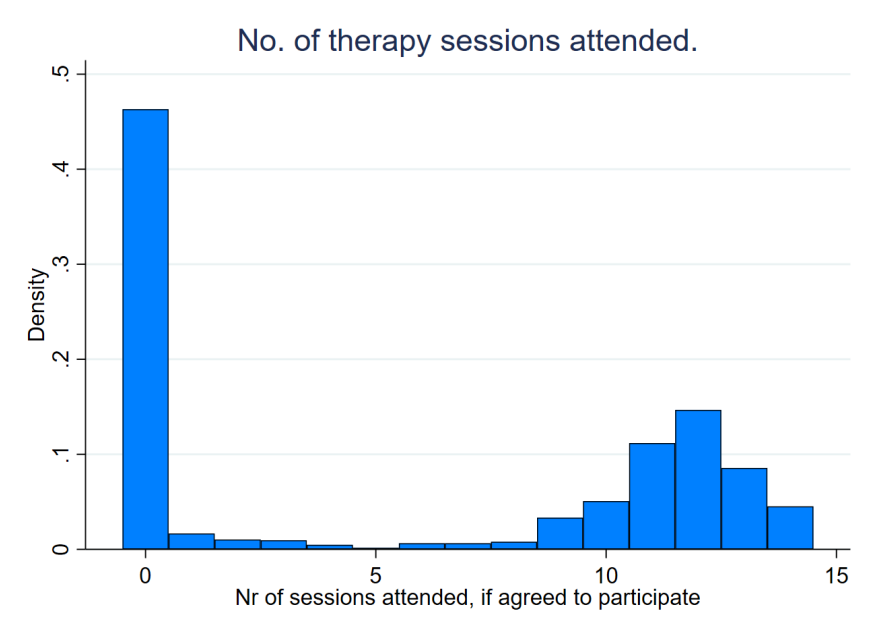


Figure 2: Attendance, probability distribution.

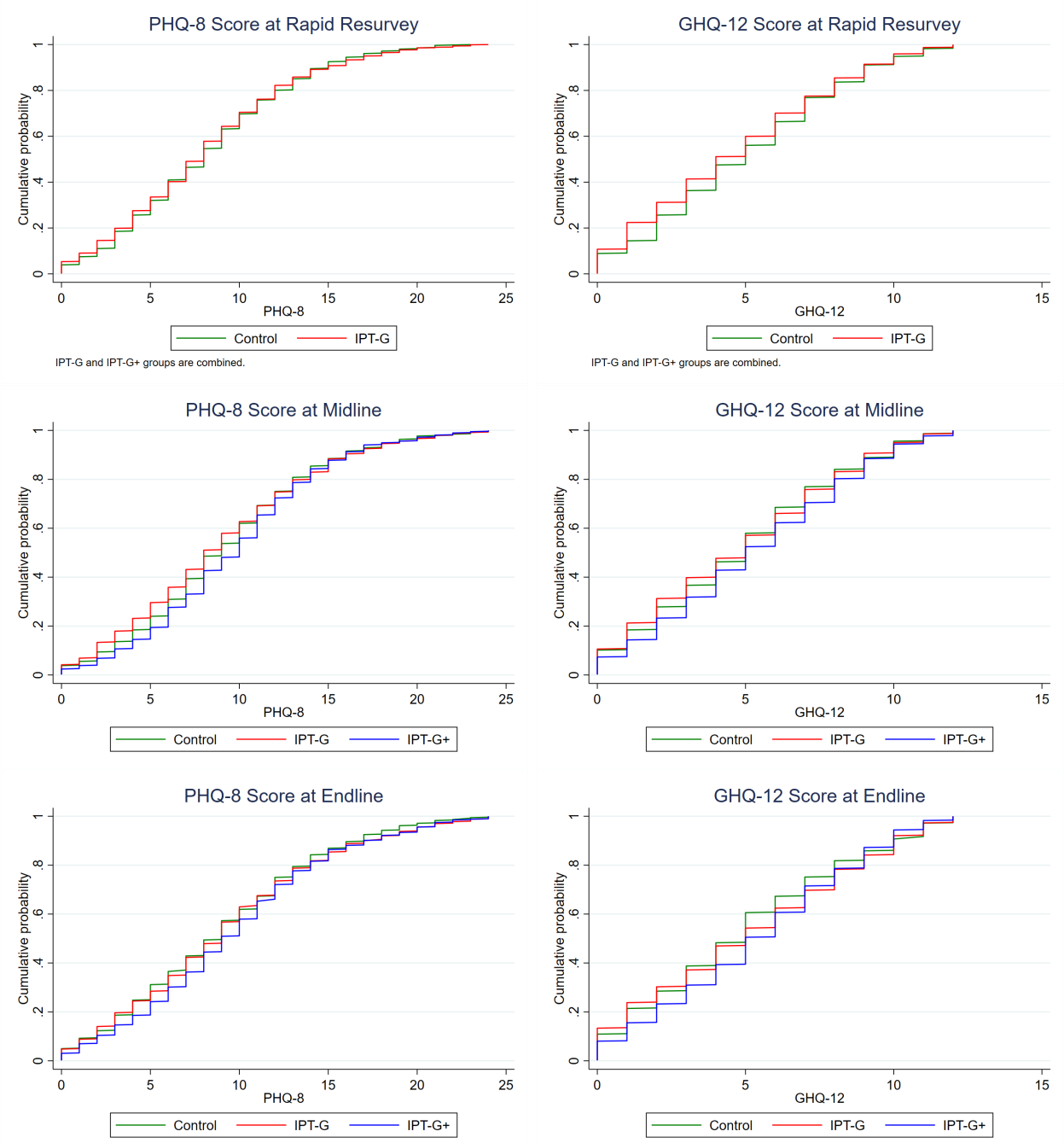


Figure 3: Cumulative distribution of mental health indicator scores.

2 Tables

Table 1: Mental health outcomes and category at each survey round.

Outcome	**Definition**	**Rapid Resurvey**	**Midline**	**Endline**
= 1 if Minimal Depression	PHQ-8$\leq$ 4	Primary	Primary	Primary
= 1 if does not suffer from psychological distress	GHQ-12$<$ 3	Primary	Primary	Primary
Score on PHQ-8	Continuous score (0-24)	Secondary	Secondary	Secondary
Score on GHQ-12	Continuous score (0-12)	Secondary	Secondary	Secondary
Self-Esteem	Score on Rosenberg Self-Esteem Scale $(0-30)$	Secondary	Secondary*	Secondary
Resilience	Score on the Child and Youth Resilience Measure-Revised (0-34)	Secondary	Secondary*	Secondary
Locus of control	On a scale of $1-10$, how much control do they feel they have over their lives	Secondary	Secondary*	Secondary

Notes: $*$ these outcomes were not measured during the midline survey because it was implemented over the phone instead of face-to-face given restrictions due to COVID-19, and thus had to be significantly shortened.

Table 2: Human capital outcomes and category at each survey round.

Outcome	**Definition**	**Rapid Resurvey**	**Midline**	**Endline**
Desired Fertility	Desired number of children at time of survey	Primary	Secondary	Secondary
Time preferences	=1 if prefers 110,000 Uganda Shs one month from now vs. 90,000 today	Primary	Secondary	Secondary
Expectations of paid work	Probability (0-10) of engaging in paid work at age 25	Primary	Secondary	Secondary
Skill-based Competencies	Total score (0-3) on set of questions on ability to make change that test numeracy and literacy	Primary	Primary†	Primary
Life Expectancy	Number (0-10) of 10 young women just like respondent alive at 40	Secondary	-	-
Education Aspirations	Aspires to complete tertiary schooling*	Secondary	-	-
Desired age of first pregnancy	Wants to be pregnant within the next 5 years (1 if already pregnant)*	Secondary	-	-
Desired age of first marriage	Wants to get married within the next 5 years (1 if already married)*	Secondary	-	-
Risky Sex	=1 if no condom use at last sex	-	Primary	Primary
Incidence of marriage	Change in ever married since baseline	-	Primary	Primary
Incidence of pregnancy	Change in ever pregnant since baseline	-	Primary	Primary
School enrollment	=1 if Enrolled in School+	-	Primary	Primary
Self-Efficacy	Score on Self-Efficacy Scale (10-40)	-	Primary	Primary

Notes: ∗ Outcome is slightly different from the one that was pre-specified; + The enrolment variable is defined as enrolled in school or enrolled when school was last in session if not currently in session, or has completed secondary schooling; † the competencies score could not be measured at midline because the survey was implemented over the phone because of restrictions due to COVID-19.

Table 3: Balance at baseline.

	(1)	(2)	(3)	(1)-(2)	(1)-(3)	(2)-(3)
	Control	IPT-G	IPT-G+	Pairwise t-test	Pairwise t-test	Pairwise t-test
Variable	Mean/(SD)	Mean/(SD)	Mean/(SD)	P-value	P-value	P-value
PHQ-8 Score (0-24)	13.180	13.166	13.243	0.965	0.970	0.958
	(3.736)	(3.307)	(4.459)			
GHQ-12 Score (0-12)	7.106	7.138	7.266	0.763	0.518	0.395
	(4.383)	(3.499)	(4.453)			
Rosenberg Self Esteem Score (0–40)	16.414	16.324	16.104	0.428	0.253	0.313
	(5.737)	(5.527)	(4.934)			
Child&Youth Resilience Score (0–34)	42.346	41.764	42.423	0.228	0.842	0.055
	(9.953)	(8.475)	(7.953)			
Age in years	16.769	16.741	16.761	0.832	0.950	0.637
	(2.906)	(2.549)	(2.658)			
Poverty Probability Index (0–100)	56.180	57.577	56.566	0.088	0.533	0.356
	(14.727)	(15.696)	(14.756)			
=1 if Ever Married	0.144	0.130	0.114	0.478	0.146	0.458
	(0.381)	(0.442)	(0.322)			
=1 if Ever Pregnant	0.196	0.192	0.165	0.876	0.263	0.302
	(0.450)	(0.535)	(0.411)			
Core Competencies Score (0–4)	1.299	1.300	1.327	0.985	0.583	0.745
	(1.872)	(1.711)	(1.838)			
=1 if Enrolled in School	0.420	0.436	0.396	0.724	0.321	0.156
	(0.504)	(0.657)	(0.588)			
=1 if Risky Sex	0.170	0.172	0.184	0.991	0.425	0.400
	(0.366)	(0.354)	(0.476)			
F-test of joint significance (P-value)				0.343	0.695	0.109

Notes: This table shows balance across treatment arms for the primary outcomes, select secondary outcomes, and baseline characteristics; F-test of joint significance tests the joint significance of the full set of coefficients from a linear regression of the balance variables on a treatment indicator estimated on the subsample including the two relevant groups.

Table 4: Attrition by treatment.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Rapid Resurvey *Immediate post-intervention*				**Midline** *12 months*		**Endline** *30 months*	
IPT-G (Any)=1	-0.018	-0.018						
	(0.014)	(0.014)						
IPT-G			0.001	0.001	0.004	0.006	-0.007	-0.009
			(0.015)	(0.015)	(0.019)	(0.019)	(0.023)	(0.023)
IPT-G+			-0.035	-0.035	-0.087	-0.084	-0.097	-0.101
			(0.014)	(0.014)	(0.014)	(0.014)	(0.021)	(0.021)
Control mean	0.139	0.139	0.139	0.139	0.205	0.205	0.261	0.261
Observations	1919	1919	1919	1919	1919	1919	1695	1695
Covariates	No	Yes	No	Yes	No	Yes	No	Yes
H0: IPT-G (any)=0	0.188	0.183						
H0: IPT-G=0			0.965	0.974	0.838	0.748	0.754	0.687
H0: IPT-G+=0			0.015	0.016	0.000	0.000	0.000	0.000
H0: IPT-G=IPT-G+			0.012	0.011	0.000	0.000	0.000	0.000
H0: Controls=0		0.492		0.499		0.302		0.888
H0: IPT-G (any) int.=0		0.403						
H0: IPT-G int.=0				0.201		0.136		0.506
H0: IPT-G+ int.=0				0.827		0.218		0.113

Notes: This table shows the impact of treatment on attrition in each survey round; Columns 1-2 combine the IPT-G and IPT-G+ treatment arms because the cash was distributed after the rapid resurvey; Estimates are obtained by regressing an attrition indicator on treatment indicators and block fixed effects centered and fully interacted with treatment, adjusted models also include centered baseline covariates fully interacted with the treatment indicator(s), covariates include the poverty probability score, age in years, ever married, ever pregnant, and the PHQ-8 score; Standard errors clustered at the club level in parentheses; t-tests report p-values from the indicated null hypothesis on the treatment coefficients; F-tests report p-values from tests of the joint significance of the full set of indicated coefficients (the in rows marked *int.* refer to the full set of covariate interactions with the indicated treatment).

Table 5: Compliance with treatment assignment.

	(1) Attended therapy	(2) Received Cash
IPT-G	0.559	-0.000
	(0.034)	(0.000)
IPT-G+	0.516	0.865
	(0.030)	(0.016)
Control mean	0.000	0.000
Obs.	1913	1914
H0: IPT-G=0	0.000	.
H0: IPT-G+=0	0.000	0.000
H0: IPT-G = IPT-G+	0.343	0.000

Notes: This table shows the impact of treatment on compliance with treatment assignment; Estimates obtained by regressing compliance on treatment indicators; Standard errors are clustered at the club level in parentheses.

Table 6: Impact of therapy on mental health outcomes.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Primary *Minimal depression*		**Secondary** *Discrete scores*				
	=1 if PHQ8≤4	=1 if GHQ12<3	PHQ8	GHQ12	Self-Esteem	Resilience	Locus of control
Panel A: Rapid Resurvey (immediate post-intervention)							
IPT-G	0.031	0.061	-0.354	-0.484	-0.037	0.078	0.059
	(0.022)	(0.024)	(0.297)	(0.193)	(0.175)	(0.265)	(0.136)
Control mean	0.256	0.256	8.198	5.002	17.755	43.136	5.123
Control SD	0.437	0.437	4.842	3.166	3.599	4.789	3.242
Observations	1669	1669	1669	1669	1610	1608	1610
H0: IPT-G=0 p-values	0.172	0.011	0.236	0.014	0.833	0.770	0.664
FDR adj. q-values	0.172	0.023	0.590	0.069	0.833	0.833	0.833
Panel B: Midline (12 months follow-up)							
IPT-G	0.054	0.054	-0.404	-0.181			
	(0.020)	(0.024)	(0.277)	(0.170)			
Control mean	0.184	0.278	9.226	4.900			
Control SD	0.388	0.449	5.137	3.235			
Observations	1001	1001	1001	1001			
H0: IPT-G=0 p-values	0.009	0.030	0.149	0.293			
FDR adj. q-values	0.017	0.030	0.293	0.293			
Panel C: Endline (30 months follow-up)							
IPT-G	0.004	0.014	0.275	0.222	-0.085	0.094	-0.185
	(0.027)	(0.027)	(0.437)	(0.226)	(0.224)	(0.304)	(0.107)
Control mean	0.248	0.285	8.919	4.935	13.111	43.454	6.075
Control SD	0.432	0.452	5.529	3.482	3.163	5.292	2.838
Observations	901	884	901	884	873	833	882
H0: IPT-G=0 p-values	0.889	0.597	0.532	0.329	0.704	0.759	0.088
FDR adj. q-values	0.889	0.889	0.759	0.759	0.759	0.759	0.441

Notes: This table shows ITT estimates of the impact of IPT-G on the primary and secondary mental health outcomes, comparing the control group to the IPT-G only group; The full sample is used in Panel A as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for the primary outcomes, indicators for whether the PHQ-8 score is ≤ 4 or the GHQ-12 score is < 3; Columns 3-7 show results for the secondary outcomes, the PHQ-8 and GHQ-12 raw scores, the Rosenberg Self-Esteem scale, the Child and Youth Resilience Measure-Revised, and Locus of Control, all in terms of their raw scores; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes (primary and secondary) and per round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table 7: Impact of adding cash to therapy on mental health.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Primary *Minimal depression*		**Secondary** *Discrete scores*				
	=1 if PHQ8≤4	=1 if GHQ12<3	PHQ8	GHQ12	Self-Esteem	Resilience	Locus of control
Panel A: Midline (12 months follow-up)							
IPT-G+	-0.101	-0.095	0.992	0.587			
	(0.020)	(0.024)	(0.228)	(0.176)			
IPT-G mean	0.231	0.313	8.938	4.831			
IPT-G SD	0.422	0.464	5.462	3.331			
Observations	1052	1052	1052	1052			
H0: IPT-G+=0 p-values	0.000	0.000	0.000	0.001			
FDR adj. q-values	0.000	0.000	0.000	0.001			
Panel B: Endline (30 months follow-up)							
IPT-G+	-0.068	-0.071	0.458	0.226	-0.095	-0.946	-0.019
	(0.028)	(0.031)	(0.451)	(0.249)	(0.229)	(0.368)	(0.143)
IPT-G mean	0.244	0.303	9.144	5.102	13.109	43.399	5.937
IPT-G SD	0.430	0.460	5.799	3.641	3.485	5.507	2.683
Observations	964	953	964	953	940	903	950
H0: IPT-G+=0 p-values	0.017	0.025	0.314	0.367	0.680	0.012	0.896
FDR adj. q-values	0.025	0.025	0.611	0.611	0.851	0.062	0.896

Notes: This table shows ITT estimates of the impact of adding Cash to IPT-G on the primary and secondary mental health outcomes, comparing the IPT-G only group to IPT-G+ group; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for the primary outcomes, indicators for whether the PHQ-8 score is ≤ 4 or the GHQ-12 score is < 3; Columns 3-7 show results for the secondary outcomes, the PHQ-8 and GHQ-12 raw scores, the Rosenberg Self-Esteem scale, the Child and Youth Resilience Measure-Revised, and Locus of Control, all in terms of their raw scores; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table 8: Impact of therapy on human capital accumulation at the rapid resurvey.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Primary outcomes				**Secondary outcomes**			
	Desired fertility	Time preferences	Prob. of paid work	Compet-encies	Educ. aspirations	Pregnant within 5yrs	Married within 5yrs	Life expectancy
Rapid Resurvey (Immediate post-intervention)								
IPT-G	-0.043	0.055	0.024	0.103	-0.017	-0.027	-0.024	0.020
	(0.058)	(0.029)	(0.011)	(0.058)	(0.018)	(0.022)	(0.023)	(0.013)
Control mean	3.531	0.489	0.812	1.307	0.855	0.421	0.410	0.505
Control SD	1.371	0.500	0.237	1.200	0.352	0.494	0.492	0.222
Observations	1639	1657	1648	1627	1561	1596	1598	1555
H0: IPT-G=0 p-values	0.461	0.065	0.039	0.078	0.356	0.224	0.314	0.139
FDR adj. q-value	0.461	0.104	0.104	0.104	0.356	0.356	0.356	0.356

Notes: This table shows ITT estimates of the impact of IPT-G on the primary and secondary human capital accumulation outcomes at the rapid resurvey, comparing the control group to the IPT-G only group; The full sample is used as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-4 show the primary outcomes: Desired fertility (Desired number of children at time of survey), time preferences (prefers 110,000 Uganda Shs in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and the score obtained on the Competencies test; Columns 4-8 show the secondary outcomes: Educational aspirations (wishes to pursue some tertiary education), would like to become pregnant within 5 years (or if already pregnant), would like to get married within 5 years (or if already married), and perceived life expectancy (the likelihood of being alive at 40); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and per round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table 9: Impact of therapy on human capital accumulation at 12 and 30 months.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Primary outcomes						**Secondary outcomes**		
	Enrolled in school	Compet-encies	Self-efficacy	Pregnant	Married	Risky sex	Time prefs.	Paid work	Desired fert.
Panel A: Midline (12 month follow-up)									
IPT-G	0.075		0.468	-0.018	-0.025	-0.009	0.056	-0.007	-0.275
	(0.032)		(0.334)	(0.013)	(0.012)	(0.023)	(0.030)	(0.018)	(0.072)
Control mean	0.328		31.649	0.096	0.084	0.273	0.429	0.751	3.786
Control SD	0.470		5.049	0.296	0.277	0.446	0.495	0.257	1.289
Observations	993	6368	987	973	982	993	998	996	988
H0: IPT-G=0 p-values	0.021		0.166	0.194	0.042	0.715	0.063	0.711	0.000
FDR adj. q-value	0.104		0.242	0.242	0.106	0.715	0.095	0.711	0.001
Panel B: Endline (30 month follow-up)									
IPT-G	0.060	-0.060	-0.630	0.012	0.011	-0.032	0.055	0.024	0.014
	(0.030)	(0.091)	(0.815)	(0.024)	(0.021)	(0.036)	(0.033)	(0.012)	(0.080)
Control mean	0.257	1.444	29.743	0.213	0.170	0.381	0.395	0.793	3.813
Control SD	0.437	1.188	9.074	0.410	0.376	0.486	0.489	0.251	1.385
Observations	884	774	884	877	885	870	881	879	866
H0: IPT-G=0 p-values	0.048	0.515	0.442	0.606	0.584	0.375	0.095	0.055	0.859
FDR adj. q-value	0.289	0.606	0.606	0.606	0.606	0.606	0.143	0.143	0.859

Notes: This table shows ITT estimates of the impact of IPT-G on the primary and secondary human capital outcomes at midline and endline, comparing the control group to the IPT-G only group; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-6 show results for the primary outcomes: school enrolment which at midline referred to the period immediately prior to the pandemic and at endline whether they are enrolled in school if school is in session or were enrolled in school when school was last in session (or if they have completed secondary schooling), the score on the Competencies test, the score on the **?** self-efficacy scale, whether they have been pregnant since baseline, whether they have married since baseline, and risky sex (whether they used a condom at their last intercourse); Columns 7-9 show results for the secondary outcomes: Time preferences (prefers 110,000 Uganda shillings in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and desired fertility (desired number of children at time of survey); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table 10: Impact of adding cash to therapy on human capital accumulation at 12 and 30 months.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Primary outcomes						**Secondary outcomes**		
	Enrolled in school	Compet-encies	Self-efficacy	Pregnant	Married	Risky sex	Time prefs.	Paid work	Desired fert.
Panel A: Midline (12 month follow-up)									
IPT-G+	-0.058		-0.306	0.003	0.008	-0.025	0.013	-0.006	0.332
	(0.028)		(0.249)	(0.015)	(0.013)	(0.023)	(0.034)	(0.017)	(0.061)
IPT-G mean	0.404		32.125	0.077	0.062	0.269	0.477	0.744	3.512
IPT-G SD	0.491		4.974	0.268	0.241	0.444	0.500	0.255	1.223
Observations	1043	2528	1042	1024	1037	1045	1052	1045	1041
H0: IPT-G+=0 p-values	0.040		0.222	0.841	0.541	0.281	0.715	0.713	0.000
FDR adj. q-values	0.200		0.468	0.841	0.676	0.468	0.715	0.715	0.000
Panel B: Endline (30 month follow-up)									
IPT-G+	-0.032	0.020	0.660	-0.026	-0.008	0.004	-0.024	-0.035	0.079
	(0.027)	(0.081)	(0.702)	(0.027)	(0.023)	(0.037)	(0.031)	(0.015)	(0.081)
IPT-G mean	0.299	1.414	29.505	0.217	0.181	0.339	0.423	0.813	3.872
IPT-G SD	0.458	1.217	8.731	0.413	0.385	0.474	0.495	0.230	1.513
Observations	952	838	948	934	947	936	950	949	933
H0: IPT-G+=0 p-values	0.238	0.807	0.350	0.346	0.719	0.911	0.440	0.021	0.332
FDR adj. q-values	0.701	0.911	0.701	0.701	0.911	0.911	0.440	0.064	0.440

Notes: This table shows ITT estimates of the impact of adding Cash to IPT-G on the primary and secondary human capital accumulation outcomes, comparing the IPT-G only group to IPT-G+ group; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-6 show results for the primary outcomes: school enrolment which at midline referred to the period immediately prior to the pandemic and at endline whether they are enrolled in school if school is in session or were enrolled in school when school was last in session (or if they have completed secondary schooling), the score on the Competencies test, the score on the **?** self-efficacy scale, whether they have been pregnant since baseline, whether they have married since baseline, and risky sex (whether they used a condom at their last intercourse); Columns 7-9 show results for the secondary outcomes: Time preferences (prefers 110,000 Uganda shillings in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and desired fertility (desired number of children at time of survey); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table 11: Impacts on adolescent's own and perceived household response to COVID-19.

	(1)	(2)	(3)	(4)	(5)	(6)
	Adolescent's own response				**Perceived HH response**	
	Get angry more quickly	Arguing more often	Talk about problems	Worry about health	Increased stress in HH	HH lost some income
Panel A: Midline (12 month follow-up)						
IPT-G	-0.011	0.019	0.023	-0.004	0.005	0.015
	(0.029)	(0.033)	(0.039)	(0.013)	(0.030)	(0.021)
IPT-G+	0.076	-0.005	0.043	0.005	0.053	0.005
	(0.030)	(0.035)	(0.039)	(0.011)	(0.028)	(0.019)
Control mean	0.484	0.355	0.654	0.932	0.623	0.915
Control SD	0.500	0.479	0.476	0.251	0.485	0.279
Observations	1561	1563	1564	1564	1564	1561
H0: IPT-G=0 p-values	0.696	0.567	0.553	0.744	0.872	0.469
FDR adj. q-values	0.872	0.872	0.872	0.872	0.872	0.872
H0: IPT-G+=0 p-values	0.012	0.896	0.275	0.633	0.055	0.785
FDR adj. q-values	0.070	0.896	0.550	0.896	0.165	0.896
Coeff.: IPT-G+ - IPT-G	0.088	-0.024	0.019	0.009	0.049	-0.010
H0: IPT-G=IPT-G+ p-values	0.001	0.493	0.457	0.470	0.077	0.601
FDR adj. q-values	0.005	0.592	0.592	0.592	0.230	0.601
Panel B: Endline (30 month follow-up)						
IPT-G	-0.021	-0.003	-0.062	-0.046	0.027	0.036
	(0.034)	(0.038)	(0.036)	(0.025)	(0.037)	(0.023)
IPT-G+	0.089	0.119	-0.052	-0.013	0.093	0.044
	(0.031)	(0.033)	(0.034)	(0.034)	(0.043)	(0.024)
Control mean	0.348	0.273	0.639	0.811	0.484	0.837
Control SD	0.477	0.446	0.481	0.392	0.500	0.370
Observations	1255	1251	1251	1253	1256	1253
H0: IPT-G=0 p-values	0.524	0.945	0.093	0.069	0.471	0.119
FDR adj. q-values	0.629	0.945	0.238	0.238	0.629	0.238
H0: IPT-G+=0 p-values	0.005	0.000	0.132	0.692	0.032	0.067
FDR adj. q-values	0.016	0.003	0.158	0.692	0.063	0.100
Coeff.: IPT-G+ - IPT-G	0.110	0.122	0.010	0.032	0.067	0.008
H0: IPT-G=IPT-G+ p-values	0.003	0.004	0.786	0.348	0.057	0.754
FDR adj. q-values	0.013	0.013	0.786	0.521	0.115	0.786

Notes: This table shows ITT estimates of the impact of IPT-G and IPT-G+ on adolescents' perceptions of their households' and their own response to COVID-19; All regression models include randomization block fixed effects centered and fully interacted with all treatment indicators; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Outcomes in columns 1 to 4 are binary indicators for the adolescent respondent saying that they responded to COVID-19 by: "Getting angry more quickly", "Arguing more often", "Talking more often about problems with your family to find solutions", "Fearing and worrying about your own health and the health of your loved ones"; Columns 5 shows whether the respondent agrees or partially agrees that COVID-19 has increased stress in their household; Column 6 indicates whether the respondent thinks their household lost some, most, or all of their income due to COVID-19; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of adolescents.

Appendix:
Therapy, Mental Health, and Human Capital Accumulation among Adolescents in Uganda

A Appendix Tables

Table A1: Attrition by treatment and baseline covariates.

	(1)	(2)	(3)	(4)	(5)	(6)
	Rapid Resurvey *Immediate post-intervention*		**Midline** *12 months*		**Endline** *24 months*	
IPT-G	0.001	0.001	0.004	0.006	-0.007	-0.009
	(0.015)	(0.015)	(0.019)	(0.019)	(0.023)	(0.023)
IPT-G+	-0.035	-0.035	-0.087	-0.084	-0.097	-0.101
	(0.014)	(0.014)	(0.014)	(0.014)	(0.021)	(0.021)
Age		-0.002		-0.001		0.008
		(0.008)		(0.009)		(0.011)
Ever pregnant		0.037		0.055		0.047
		(0.049)		(0.045)		(0.077)
Ever married		-0.006		-0.070		-0.064
		(0.056)		(0.046)		(0.085)
PPI		0.001		-0.003		-0.000
		(0.001)		(0.001)		(0.003)
PHQ-8		0.008		0.005		0.002
		(0.004)		(0.006)		(0.007)
IPT-G X Age		0.017		0.022		0.005
		(0.011)		(0.013)		(0.016)
IPT-G+ X Age		0.007		-0.006		-0.015
		(0.010)		(0.012)		(0.016)
IPT-G X Ever pregnant		-0.020		-0.129		-0.103
		(0.086)		(0.084)		(0.122)
IPT-G+ X Ever pregnant		-0.009		-0.023		-0.176
		(0.068)		(0.072)		(0.088)
IPT-G X Ever married		-0.026		0.082		0.107
		(0.089)		(0.092)		(0.157)
IPT-G+ X Ever married		-0.054		0.148		0.094
		(0.076)		(0.090)		(0.097)
IPT-G X PPI		0.000		0.002		0.002
		(0.002)		(0.002)		(0.004)
IPT-G+ X PPI		0.000		0.003		0.001
		(0.002)		(0.002)		(0.003)
IPT-G X PHQ-8		-0.010		-0.005		-0.016
		(0.006)		(0.009)		(0.010)
IPT-G+ X PHQ-8		-0.005		-0.003		-0.011
		(0.005)		(0.007)		(0.009)
Control mean	0.139	0.139	0.205	0.205	0.261	0.261
Observations	1919	1919	1919	1919	1695	1695
H0: IPT-G=0	0.965	0.974	0.838	0.748	0.754	0.687
H0: IPT-G+=0	0.015	0.016	0.000	0.000	0.000	0.000
H0: IPT-G = IPT-G+	0.012	0.011	0.000	0.000	0.000	0.000
H0: Controls=0		0.499		0.302		0.888
H0: IPT-G interactions=0		0.201		0.136		0.506
H0: IPT-G+ interactions=0		0.827		0.218		0.113

Notes: * p<0.10, ** p<0.05, *** p<0.01; This table shows the impact of treatment on attrition in each survey round; All models also include block fixed effect centered and fully interacted with treatments; Standard errors clustered at the club level in parentheses; t-tests report p-values from the indicated null hypothesis on the treatment coefficients; F-tests report p-values from tests of the joint orthogonality of the full set of indicated coefficients.

Table A2: Mean outcomes by levels of attendance at the rapid resurvey.

Attendance	(1) =1 if PHQ8≤4	(2) PHQ8 Score	(3) =1 if GHQ12<3	(4) GHQ12-Score	Obs.
Control group	0.257	8.175	0.257	4.991	561.000
Attended 0 sessions	0.244	8.494	0.277	5.008	484.000
Attended 1-9 sessions	0.279	8.369	0.324	4.523	111.000
Attended 10-13 sessions	0.303	7.539	0.333	4.371	456.000
Attended all 14 sessions	0.327	7.691	0.400	3.964	55.000

Notes: Each cell shows the average outcome in each round by the level of attendance. IPT-G and IPT-G+ groups are combined in the rapid resurvey round.

Table A3: Impacts on mental health outcomes.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Primary *Minimal depression*		**Secondary** *Discrete scores*				
	=1 if PHQ8≤4	=1 if GHQ12<3	PHQ8	GHQ12	Self-Esteem	Resilience	Locus of control
Panel A: Rapid Resurvey (immediate post-intervention)							
IPT-G	0.031	0.061	-0.354	-0.484	-0.037	0.078	0.059
	(0.022)	(0.024)	(0.297)	(0.193)	(0.175)	(0.265)	(0.136)
Control mean	0.256	0.256	8.198	5.002	17.755	43.136	5.123
Control SD	0.437	0.437	4.842	3.166	3.599	4.789	3.242
Observations	1669	1669	1669	1669	1610	1608	1610
H0: IPT-G=0 p-values	0.172	0.011	0.236	0.014	0.833	0.770	0.664
FDR adj. q-values	0.172	0.023	0.590	0.069	0.833	0.833	0.833
Panel B: Midline (12 months follow-up)							
IPT-G	0.059	0.058	-0.427	-0.208			
	(0.021)	(0.026)	(0.284)	(0.183)			
IPT-G+	-0.045	-0.040	0.569	0.382			
	(0.019)	(0.026)	(0.257)	(0.171)			
Control mean	0.184	0.278	9.226	4.900			
Control SD	0.388	0.449	5.137	3.235			
Observations	1573	1573	1573	1573			
H0: IPT-G=0 p-values	0.006	0.029	0.135	0.258			
FDR adj. q-values	0.012	0.029	0.258	0.258			
H0: IPT-G+=0 p-values	0.020	0.126	0.029	0.028			
FDR adj. q-values	0.039	0.126	0.029	0.029			
Coeff.: IPT-G+ - IPT-G	-0.103	-0.097	0.997	0.590			
H0: IPT-G=IPT-G+ p-values	0.000	0.000	0.000	0.001			
FDR adj. q-values	0.000	0.000	0.000	0.001			
Panel C: Endline (30 months follow-up)							
IPT-G	0.003	0.016	0.327	0.212	-0.178	0.286	-0.211
	(0.027)	(0.027)	(0.442)	(0.225)	(0.224)	(0.305)	(0.106)
IPT-G+	-0.064	-0.052	0.790	0.424	-0.254	-0.690	-0.216
	(0.028)	(0.027)	(0.423)	(0.216)	(0.176)	(0.383)	(0.139)
Control mean	0.248	0.285	8.919	4.935	13.111	43.454	6.075
Control SD	0.432	0.452	5.529	3.482	3.163	5.292	2.838
Observations	1438	1416	1438	1416	1396	1337	1413
H0: IPT-G=0 p-values	0.912	0.567	0.460	0.346	0.427	0.351	0.049
FDR adj. q-values	0.912	0.912	0.460	0.460	0.460	0.460	0.244
H0: IPT-G+=0 p-values	0.023	0.052	0.065	0.052	0.152	0.075	0.124
FDR adj. q-values	0.046	0.052	0.124	0.124	0.152	0.124	0.152
Coeff.: IPT-G+ - IPT-G	-0.067	-0.068	0.462	0.212	-0.075	-0.976	-0.005
H0: IPT-G=IPT-G+ p-values	0.022	0.048	0.341	0.439	0.752	0.011	0.970
FDR adj. q-values	0.043	0.048	0.731	0.731	0.939	0.056	0.970

Notes: *See following page...*

This table shows ITT estimates of the impact of IPT-G and IPT-G+ on the primary and secondary mental health outcomes; The treatment indicators are combined in Panel A as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects centered and fully interacted with all treatment indicators; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for the primary outcomes, indicators for whether the PHQ-8 score is ≤ 4 or the GHQ-12 score is < 3; Columns 3-7 show results for the secondary outcomes, the PHQ-8 and GHQ-12 raw scores, the Rosenberg Self-Esteem scale, the Child and Youth Resilience Measure-Revised, and Locus of Control, all in terms of their raw scores; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within the primary or the secondary set of outcomes per round, as per **?**; Differences in the sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A4: Impacts on mental health outcomes, adjusted estimates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Primary *Minimal depression*		**Secondary** *Discrete scores*				
	=1 if PHQ8≤4	=1 if GHQ12<3	PHQ8	GHQ12	Self-Esteem	Resilience	Locus of control
Panel A: Rapid Resurvey (immediate post-intervention)							
IPT-G	0.028	0.056	-0.302	-0.450	-0.076	0.001	0.064
	(0.023)	(0.024)	(0.296)	(0.191)	(0.180)	(0.269)	(0.125)
Control mean	0.256	0.256	8.198	5.002	17.755	43.136	5.123
Control SD	0.437	0.437	4.842	3.166	3.599	4.789	3.242
Observations	1669	1669	1669	1669	1610	1608	1610
H0: IPT-G=0 p-values	0.229	0.020	0.311	0.020	0.672	0.996	0.608
FDR adj. q-values	0.229	0.039	0.777	0.102	0.841	0.996	0.841
Panel B: Midline (12 months follow-up)							
IPT-G	0.052	0.052	-0.369	-0.164			
	(0.021)	(0.025)	(0.289)	(0.182)			
IPT-G+	-0.048	-0.039	0.576	0.370			
	(0.018)	(0.025)	(0.258)	(0.165)			
Control mean	0.184	0.278	9.226	4.900			
Control SD	0.388	0.449	5.137	3.235			
Observations	1573	1573	1573	1573			
H0: IPT-G=0 p-values	0.013	0.042	0.204	0.371			
FDR adj. q-values	0.027	0.042	0.371	0.371			
H0: IPT-G+=0 p-values	0.010	0.133	0.028	0.027			
FDR adj. q-values	0.020	0.133	0.028	0.028			
Coeff.: IPT-G+ - IPT-G	-0.099	-0.091	0.946	0.534			
H0: IPT-G=IPT-G+ p-values	0.000	0.000	0.000	0.003			
FDR adj. q-values	0.000	0.000	0.000	0.003			
Panel C: Endline (30 months follow-up)							
IPT-G	-0.004	0.010	0.422	0.262	-0.158	0.199	-0.181
	(0.026)	(0.026)	(0.435)	(0.206)	(0.219)	(0.325)	(0.101)
IPT-G+	-0.062	-0.054	0.802	0.431	-0.232	-0.748	-0.226
	(0.028)	(0.027)	(0.424)	(0.207)	(0.168)	(0.405)	(0.130)
Control mean	0.248	0.285	8.919	4.935	13.111	43.454	6.075
Control SD	0.432	0.452	5.529	3.482	3.163	5.292	2.838
Observations	1438	1416	1438	1416	1396	1337	1413
H0: IPT-G=0 p-values	0.884	0.682	0.335	0.207	0.474	0.541	0.076
FDR adj. q-values	0.884	0.884	0.541	0.518	0.541	0.541	0.381
H0: IPT-G+=0 p-values	0.026	0.046	0.061	0.040	0.170	0.067	0.085
FDR adj. q-values	0.046	0.046	0.106	0.106	0.170	0.106	0.106
Coeff.: IPT-G+ - IPT-G	-0.059	-0.064	0.380	0.170	-0.074	-0.947	-0.045
H0: IPT-G=IPT-G+ p-values	0.044	0.058	0.429	0.516	0.755	0.015	0.717
FDR adj. q-values	0.058	0.058	0.755	0.755	0.755	0.073	0.755

Notes: *See following page...*

Notes: This table shows ITT estimates of the impact of IPT-G and IPT-G+ on the primary and secondary mental health outcomes; The treatment indicators are combined in Panel A as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects and baseline covariates centered and fully interacted with treatment, covariates are the poverty probability score, age, ever married, ever pregnant, and the baseline PHQ-8 score; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for the primary outcomes, indicators for whether the PHQ-8 score is ≤ 4 or the GHQ-12 score is < 3; Columns 3-7 show results for the secondary outcomes, the PHQ-8 and GHQ-12 raw scores, the Rosenberg Self-Esteem scale, the Child and Youth Resilience Measure-Revised, and Locus of Control, all in terms of their raw scores; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes (primary and secondary) and per round, as per **?**; Differences in the sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A5: Impact of therapy on mental health outcomes, LATE estimates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Primary *Minimal depression*		**Secondary** *Discrete scores*				
	=1 if PHQ8≤4	=1 if GHQ12<3	PHQ8	GHQ12	Self-Esteem	Resilience	Locus of control
Panel A: Rapid Resurvey (immediate post-intervention)							
Therapy	0.057	0.107	-0.730	-0.880	0.028	0.248	0.116
	(0.039)	(0.041)	(0.552)	(0.354)	(0.309)	(0.465)	(0.253)
Control mean	0.257	0.257	8.175	4.991	17.755	43.150	5.124
Control SD	0.437	0.437	4.816	3.159	3.602	4.784	3.245
Observations	1667	1667	1667	1667	1608	1606	1608
H0: IPT-G=0 p-value	0.150	0.010	0.186	0.013	0.927	0.594	0.645
First-stage F-stat.	21.626	21.626	21.626	21.626	21.112	20.953	20.377
Panel B: Midline (12 month follow-up)							
Therapy	0.078	0.085	-0.578	-0.262			
	(0.035)	(0.047)	(0.551)	(0.304)			
Control mean	0.184	0.278	9.226	4.900			
Control SD	0.388	0.449	5.137	3.235			
Observations	1001	1001	1001	1001			
H0: IPT-G=0 p-value	0.026	0.067	0.294	0.389			
First-stage F-stat.	14.025	14.025	14.025	14.025			
Panel C: Endline (30 month follow-up)							
Therapy	0.031	0.028	0.192	0.326	-0.245	0.079	-0.361
	(0.047)	(0.048)	(0.809)	(0.397)	(0.421)	(0.652)	(0.200)
Control mean	0.248	0.285	8.919	4.935	13.111	43.454	6.075
Control SD	0.432	0.452	5.529	3.482	3.163	5.292	2.838
Observations	901	884	901	884	873	833	882
H0: IPT-G=0 p-value	0.507	0.554	0.813	0.411	0.561	0.903	0.071
First-stage F-stat.	17.070	16.736	17.070	16.736	16.061	15.734	16.372

Notes: This table shows LATE-IV estimates of the impact of IPT-G on mental health outcomes; Standard errors clustered at the club level in parentheses; The full sample is used in Panel A as the Cash treatment arm was implemented after the Rapid Resurvey; LATE estimates instrument having attended therapy (at least one session) with assignment to the IPT-G treatment group; All regression models include randomization block fixed effects centered and fully interacted with treatment, interactions between attending therapy and the centered blocks are instrumented with respective interactions between assigned to treatment and the centered blocks; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for the primary outcomes, indicators for whether the PHQ-8 score is ≤ 4 or the GHQ-12 score is < 3; Columns 3-7 show results for the secondary outcomes, the PHQ-8 and GHQ-12 raw scores, the Rosenberg Self-Esteem scale, the Child and Youth Resilience Measure-Revised, and Locus of Control, all in terms of their raw scores; The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients; The first stage F-stat. refers to the Cragg-Donald Wald F-statistic.

Table A6: Impacts on moderate and severe depression.

	(1)	(2)	(3)	(4)
	Moderate depression *PHQ8≥10*		**Severe depression** *PHQ8≥15*	
Panel A: Rapid Resurvey (immediate post-intervention)				
IPT-G	-0.033	-0.027	-0.011	-0.011
	(0.028)	(0.027)	(0.017)	(0.018)
Control mean	0.368	0.368	0.105	0.105
Control SD	0.483	0.483	0.307	0.307
Observations	1669	1669	1669	1669
Controls	No	Yes	No	Yes
H0: IPT-G=0 p-values	0.252	0.323	0.537	0.542
FDR adj. q-values	0.503	0.542	0.537	0.542
Panel B: Midline (12 months follow-up)				
IPT-G	-0.052	-0.046	0.028	0.028
	(0.028)	(0.029)	(0.019)	(0.019)
IPT-G+	0.056	0.059	0.019	0.016
	(0.026)	(0.027)	(0.015)	(0.015)
Control mean	0.463	0.463	0.146	0.146
Control SD	0.499	0.499	0.353	0.353
Observations	1573	1573	1573	1573
Controls	No	Yes	No	Yes
H0: IPT-G=0 p-values	0.061	0.111	0.140	0.155
FDR adj. q-values	0.122	0.155	0.140	0.155
H0: IPT-G+=0 p-values	0.035	0.031	0.222	0.288
FDR adj. q-values	0.071	0.063	0.222	0.288
Coeff.: IPT-G+ - IPT-G	0.108	0.105	-0.010	-0.011
H0: IPT-G=IPT-G+ p-values	0.000	0.000	0.549	0.484
FDR adj. q-values	0.000	0.000	0.549	0.484
Panel C: Endline (30 months follow-up)				
IPT-G	0.012	0.019	0.028	0.030
	(0.029)	(0.028)	(0.028)	(0.028)
IPT-G+	0.067	0.067	0.024	0.028
	(0.031)	(0.031)	(0.026)	(0.026)
Control mean	0.427	0.427	0.158	0.158
Control SD	0.495	0.495	0.365	0.365
Observations	1438	1438	1438	1438
Controls	No	Yes	No	Yes
H0: IPT-G=0 p-values	0.686	0.495	0.326	0.284
FDR adj. q-values	0.686	0.495	0.651	0.495
H0: IPT-G+=0 p-values	0.036	0.031	0.367	0.296
FDR adj. q-values	0.073	0.063	0.367	0.296
Coeff.: IPT-G+ - IPT-G	0.055	0.048	-0.004	-0.003
H0: IPT-G=IPT-G+ p-values	0.101	0.152	0.894	0.922
FDR adj. q-values	0.202	0.303	0.894	0.922

Notes: *See following page...*

This table shows ITT estimates of the impact of IPT-G and IPT-G+ on the primary and secondary mental health outcomes; The treatment indicators are combined in Panel A as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects centered and fully interacted with treatment, adjusted models also include baseline covariates are the poverty probability score, age, ever married, ever pregnant, and the baseline PHQ-8 score, also centered and interacted; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-2 show results for having a PHQ8 score $\geq$10, which indicates symptoms of Major Depressive Disorder, and columns 3-4 for having a PHQ8 score $\geq$15, which indicates symptoms of severe depression (**?**); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes (primary and secondary) and per round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A7: Impact of therapy on human capital accumulation at the rapid resurvey, adjusted estimates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Primary outcomes				**Secondary outcomes**			
	Desired fertility	Time preferences	Prob. of paid work	Compet-encies	Educ. aspirations	Pregnant within 5yrs	Married within 5yrs	Life expectancy
Rapid Resurvey (Immediate post-intervention)								
IPT-G	-0.033	0.054	0.023	0.088	-0.021	-0.013	-0.009	0.019
	(0.054)	(0.028)	(0.012)	(0.056)	(0.018)	(0.015)	(0.017)	(0.013)
Control mean	3.531	0.489	0.812	1.307	0.855	0.421	0.410	0.505
Control SD	1.371	0.500	0.237	1.200	0.352	0.494	0.492	0.222
Observations	1639	1657	1648	1627	1561	1596	1598	1555
H0: IPT-G=0 p-values	0.545	0.061	0.048	0.120	0.233	0.389	0.570	0.143
FDR adj. q-value	0.545	0.122	0.122	0.160	0.466	0.519	0.570	0.466

Notes: This table shows ITT estimates of the impact of IPT-G on the primary and secondary human capital accumulation outcomes at the rapid resurvey, comparing the control group to the IPT-G only group; The full sample is used as the Cash treatment arm was implemented after the Rapid Resurvey; All regression models include randomization block fixed effects and baseline covariates centered and fully interacted with treatment, covariates are the poverty probability score, age, ever married, ever pregnant, and the baseline PHQ-8 score; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-4 show the primary outcomes: Desired fertility (Desired number of children at time of survey), time preferences (prefers 110,000 Uganda shillings in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and the score obtained on the Competencies test (total score (0-3) on set of questions on ability to make change that test numeracy and literacy); Columns 4-8 show the secondary outcomes: Educational aspirations (wishes to pursue some tertiary education), would like to become pregnant within 5 years (or if already pregnant), would like to get married within 5 years (or if already married), and perceived life expectancy (the likelihood of being alive at 40); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and per round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A8: Impacts on human capital accumulation at 12 and 30 months.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
			Primary outcomes				**Secondary outcomes**		
	Enrolled in school	Compet-encies	Self-efficacy	Pregnant	Married	Risky sex	Time prefs.	Paid work	Desired fert.
Panel A: Midline (12 month follow-up)									
IPT-G	0.077		0.550	-0.018	-0.025	-0.015	0.056	-0.008	-0.276
	(0.032)		(0.337)	(0.013)	(0.012)	(0.024)	(0.031)	(0.017)	(0.072)
IPT-G+	0.019		0.406	-0.015	-0.018	-0.039	0.057	-0.020	0.055
	(0.027)		(0.319)	(0.011)	(0.011)	(0.022)	(0.029)	(0.018)	(0.068)
Control mean	0.328		31.649	0.096	0.084	0.273	0.429	0.751	3.786
Control SD	0.470		5.049	0.296	0.277	0.446	0.495	0.257	1.289
Observations	1561	7676	1558	1532	1551	1562	1570	1564	1554
H0: IPT-G=0 p-values	0.016		0.106	0.179	0.042	0.537	0.073	0.633	0.000
FDR adj. q-values	0.079		0.177	0.224	0.105	0.537	0.110	0.633	0.001
H0: IPT-G+=0 p-values	0.484		0.206	0.203	0.084	0.082	0.054	0.287	0.420
FDR adj. q-values	0.484		0.257	0.257	0.210	0.210	0.161	0.420	0.420
Coeff.: IPT-G+ - IPT-G	-0.059		-0.143	0.003	0.007	-0.024	0.001	-0.011	0.331
H0: IPT-G=IPT-G+ p-values	0.034		0.543	0.821	0.606	0.289	0.977	0.496	0.000
FDR adj. q-values	0.170		0.757	0.821	0.757	0.722	0.977	0.744	0.000
Panel B: Endline (30 month follow-up)									
IPT-G	0.067	-0.058	-0.580	0.017	0.015	-0.033	0.049	0.022	0.003
	(0.030)	(0.095)	(0.817)	(0.025)	(0.021)	(0.037)	(0.033)	(0.012)	(0.082)
IPT-G+	0.037	-0.016	0.176	-0.010	0.008	-0.035	0.019	-0.014	0.073
	(0.027)	(0.076)	(0.645)	(0.020)	(0.022)	(0.028)	(0.030)	(0.014)	(0.068)
Control mean	0.257	1.444	29.743	0.213	0.170	0.381	0.395	0.793	3.813
Control SD	0.437	1.188	9.074	0.410	0.376	0.486	0.489	0.251	1.385
Observations	1415	1246	1413	1399	1417	1395	1412	1411	1389
H0: IPT-G=0 p-values	0.026	0.541	0.479	0.493	0.464	0.364	0.137	0.061	0.971
FDR adj. q-values	0.159	0.541	0.541	0.541	0.541	0.541	0.206	0.183	0.971
H0: IPT-G+=0 p-values	0.169	0.836	0.786	0.598	0.721	0.226	0.533	0.318	0.286
FDR adj. q-values	0.678	0.836	0.836	0.836	0.836	0.678	0.533	0.477	0.477
Coeff.: IPT-G+ - IPT-G	-0.030	0.042	0.755	-0.027	-0.007	-0.001	-0.030	-0.036	0.070
H0: IPT-G=IPT-G+ p-values	0.246	0.602	0.323	0.292	0.742	0.974	0.335	0.018	0.389
FDR adj. q-values	0.645	0.890	0.645	0.645	0.890	0.974	0.389	0.053	0.389

Notes: *See following page...*

Notes: This table shows ITT estimates of the impact of IPT-G and IPT-G+ on the primary and secondary human capital accumulation outcomes; All regression models include randomization block fixed effects centered and fully interacted with treatment; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-6 show results for the primary outcomes: school enrolment which at midline referred to the period immediately prior to the pandemic and at endline whether they are enrolled in school if school is in session or were enrolled in school when school was last in session (or if they have completed secondary schooling), the score on the Competencies test, the score on the **?** self-efficacy scale, whether they have been pregnant since baseline, whether they have married since baseline, and risky sex (whether they used a condom at their last intercourse); Columns 7-9 show results for the secondary outcomes: Time preferences (prefers 110,000 Uganda Shillings in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and desired fertility (desired number of children at time of survey); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within the primary or the secondary set of outcomes per round, as per **?**; Sample size differences across outcomes are due to missing data and shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A9: Impacts on human capital accumulation at 12 and 30 months, adjusted estimates.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Primary outcomes						**Secondary outcomes**		
	Enrolled in school	Compet-encies	Self-efficacy	Pregnant	Married	Risky sex	Time prefs.	Paid work	Desired fert.
Panel A: Midline (12 month follow-up)									
IPT-G	0.060		0.562	-0.011	-0.031	-0.008	0.048	-0.012	-0.262
	(0.028)		(0.336)	(0.014)	(0.013)	(0.019)	(0.031)	(0.017)	(0.065)
IPT-G+	0.008		0.379	-0.017	-0.024	-0.020	0.055	-0.021	0.065
	(0.023)		(0.316)	(0.012)	(0.010)	(0.018)	(0.029)	(0.019)	(0.064)
Control mean	0.328		31.649	0.096	0.084	0.273	0.429	0.751	3.786
Control SD	0.470		5.049	0.296	0.277	0.446	0.495	0.257	1.289
Observations	1561	7676	1558	1532	1551	1562	1570	1564	1554
H0: IPT-G=0 p-values	0.038		0.097	0.438	0.020	0.675	0.117	0.487	0.000
FDR adj. q-values	0.094		0.162	0.548	0.094	0.675	0.175	0.487	0.000
H0: IPT-G+=0 p-values	0.718		0.232	0.157	0.023	0.267	0.061	0.261	0.315
FDR adj. q-values	0.718		0.334	0.334	0.117	0.334	0.182	0.315	0.315
Coeff.: IPT-G+ - IPT-G	-0.051		-0.182	-0.006	0.007	-0.012	0.007	-0.009	0.327
H0: IPT-G=IPT-G+ p-values	0.016		0.452	0.713	0.623	0.493	0.825	0.599	0.000
FDR adj. q-values	0.078		0.713	0.713	0.713	0.713	0.825	0.825	0.000
Panel B: Endline (30 month follow-up)									
IPT-G	0.058	-0.083	-0.451	0.018	0.015	-0.022	0.047	0.020	0.014
	(0.024)	(0.090)	(0.789)	(0.024)	(0.021)	(0.030)	(0.033)	(0.012)	(0.080)
IPT-G+	0.042	-0.047	0.205	-0.023	-0.005	-0.029	0.018	-0.015	0.085
	(0.021)	(0.072)	(0.650)	(0.017)	(0.018)	(0.023)	(0.030)	(0.015)	(0.064)
Control mean	0.257	1.444	29.743	0.213	0.170	0.381	0.395	0.793	3.813
Control SD	0.437	1.188	9.074	0.410	0.376	0.486	0.489	0.251	1.385
Observations	1415	1246	1413	1399	1417	1395	1412	1411	1389
H0: IPT-G=0 p-values	0.017	0.360	0.568	0.467	0.485	0.460	0.155	0.092	0.860
FDR adj. q-values	0.099	0.568	0.568	0.568	0.568	0.568	0.233	0.233	0.860
H0: IPT-G+=0 p-values	0.050	0.518	0.754	0.188	0.800	0.210	0.543	0.310	0.184
FDR adj. q-values	0.302	0.776	0.800	0.419	0.800	0.419	0.543	0.465	0.465
Coeff.: IPT-G+ - IPT-G	-0.016	0.036	0.656	-0.040	-0.019	-0.006	-0.029	-0.035	0.071
H0: IPT-G=IPT-G+ p-values	0.404	0.647	0.380	0.103	0.358	0.842	0.361	0.022	0.361
FDR adj. q-values	0.606	0.777	0.606	0.606	0.606	0.842	0.361	0.067	0.361

Notes: *See following page...*

Notes: This table shows ITT estimates of the impact of IPT-G and IPT-G+ on the primary and secondary human capital accumulation outcomes; All regression models include randomization block fixed effects and baseline covariates centered and fully interacted with treatment, covariates are the poverty probability score, age, ever married, ever pregnant, and the baseline PHQ-8 score; Standard errors clustered at the club level in parentheses; Estimates at endline are weighted to account for the probability of selection for intensive tracking; Columns 1-6 show results for the primary outcomes: school enrolment which at midline referred to the period immediately prior to the pandemic and at endline whether they are enrolled in school if school is in session or were enrolled in school when school was last in session (or if they have completed secondary schooling), the score on the Competencies test (total score (0-3) on set of questions on ability to make change that test numeracy and literacy) , the score on the **?** self-efficacy scale, whether they have been pregnant since baseline, whether they have married since baseline, and risky sex (whether they used a condom at their last intercourse); Columns 7-9 show results for the secondary outcomes: Time preferences (prefers 110,000 Uganda Shillings in one month instead of 90,000 today), the self-reported probability of engaging in paid work at age 25, and desired fertility (desired number of children at time of survey); The rows marked as *H0:...* show the p-value for a t-test of the indicated null hypothesis on the regression coefficients and the corresponding q-values adjusting for the false discovery rate within primary and secondary outcomes and round, as per **?**; Sample size differences across outcomes are due to shorter tracking questionnaires being administered to difficult-to-reach subsets of respondents.

Table A10: Attrition bounds, impact of adding cash to therapy on mental health.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Lower bounds			**Baseline**	**Upper bounds**		
	-.25 SD	-.1 SD	Lee		Lee	+.1 SD	+.25 SD
Panel A: Midline (12 month follow-up)							
PHQ-8≤4	-0.130***	-0.110***	-0.172***	-0.101***	-0.077*	-0.083***	-0.063***
	(0.017)	(0.017)	(0.041)	(0.020)	(0.040)	(0.017)	(0.017)
PHQ-8 score	0.515***	0.785***	0.026	0.992***	1.807***	1.144***	1.413***
	(0.189)	(0.185)	(0.576)	(0.228)	(0.584)	(0.181)	(0.179)
GHQ-12<3	-0.128***	-0.105***	-0.157***	-0.095***	-0.053	-0.075***	-0.052**
	(0.021)	(0.021)	(0.054)	(0.024)	(0.047)	(0.021)	(0.021)
GHQ-12 score	0.293*	0.462***	-0.042	0.587***	1.020**	0.686***	0.855***
	(0.152)	(0.149)	(0.381)	(0.176)	(0.435)	(0.145)	(0.143)
Panel B: Endline (30 month follow-up)							
PHQ-8≤4	-0.112***	-0.086***	-0.171***	-0.074**	-0.043	-0.052**	-0.027
	(0.025)	(0.025)	(0.047)	(0.031)	(0.060)	(0.025)	(0.026)
PHQ-8 score	-0.116	0.232	-0.163	0.465	1.735**	0.695*	1.042***
	(0.364)	(0.359)	(1.080)	(0.464)	(0.774)	(0.353)	(0.350)
GHQ-12<3	-0.118***	-0.089***	-0.175***	-0.072**	-0.035	-0.051*	-0.022
	(0.027)	(0.026)	(0.058)	(0.033)	(0.063)	(0.026)	(0.026)
GHQ-12 score	-0.037	0.186	-0.242	0.333	1.044**	0.482**	0.704***
	(0.206)	(0.205)	(0.565)	(0.262)	(0.438)	(0.205)	(0.206)

Notes: * p<0.10, ** p<0.05, *** p<0.01; This table shows robustness to attrition of the ITT estimates of the impact of adding cash to IPT-G to attrition on the primary mental health outcomes; Column 4 shows the baseline unadjusted estimates shown in Table 7; Columns 3 and 5 show results using the **?** bounded estimator, which consists of trimming the top/bottom of the control/treatment group by the percent difference in attrition rates between the treatment and control groups (the group with the lower attrition rate is trimmed), controls include only the block fixed effects, robust standard errors in square brackets; Columns 1-2 and 6-7 show results using **?** as in **?**, which replace the outcomes of attritors with ±0.x standard deviations of their respective treatment group-survey round means, lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds, controls include the block fixed effects centered and fully interacted with treatment, Standard errors clustered at the club level in parentheses.

Table A11: Attrition bounds, impact of adding cash to therapy on human capital.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Lower bounds			**Baseline**	**Upper bounds**		
	-.25 SD	-.1 SD	Lee		Lee	+.1 SD	+.25 SD
Panel A: Midline (12 month follow-up)							
Enrolled in school	-0.100***	-0.074***	-0.142***	-0.058**	-0.021	-0.040*	-0.014
	(0.022)	(0.023)	(0.050)	(0.028)	(0.055)	(0.023)	(0.024)
Self-efficacy score	-0.712***	-0.450**	-1.050	-0.306	0.716	-0.102	0.160
	(0.202)	(0.201)	(0.738)	(0.249)	(0.663)	(0.200)	(0.201)
Pregnancies	-0.022*	-0.007	-0.028	0.003	0.019	0.014	0.029**
	(0.012)	(0.012)	(0.035)	(0.015)	(0.031)	(0.012)	(0.012)
Marriages	-0.013	-0.000	-0.035	0.008	0.019	0.018	0.031***
	(0.011)	(0.011)	(0.027)	(0.013)	(0.023)	(0.011)	(0.011)
Risky sex	-0.065***	-0.042**	-0.115*	-0.025	0.000	-0.011	0.012
	(0.020)	(0.020)	(0.061)	(0.023)	(0.048)	(0.019)	(0.019)
Panel B: Endline (30 month follow-up)							
Enrolled in school	-0.073***	-0.044*	-0.112*	-0.022	0.014	-0.005	0.024
	(0.024)	(0.023)	(0.065)	(0.028)	(0.056)	(0.023)	(0.023)
Competencies	-0.196***	-0.081	-0.319	0.012	0.282	0.071	0.186***
	(0.053)	(0.053)	(0.259)	(0.081)	(0.289)	(0.054)	(0.054)
Self-efficacy score	-0.361	0.095	-0.611	0.397	1.373	0.704**	1.160***
	(0.341)	(0.345)	(1.046)	(0.473)	(1.356)	(0.352)	(0.359)
Pregnancies	-0.083***	-0.055***	-0.075	-0.037	-0.003	-0.018	0.011
	(0.020)	(0.020)	(0.063)	(0.026)	(0.055)	(0.020)	(0.019)
Marriages	-0.037*	-0.012	-0.067	0.002	0.045	0.021	0.046**
	(0.019)	(0.019)	(0.058)	(0.023)	(0.044)	(0.018)	(0.018)
Risky sex	-0.058**	-0.027	-0.107	-0.007	0.050	0.016	0.048*
	(0.028)	(0.028)	(0.076)	(0.035)	(0.057)	(0.027)	(0.027)

Notes: * p<0.10, ** p<0.05, *** p<0.01; This table shows robustness to attrition of the ITT estimates of the impact of adding cash to IPT-G on the primary human capital accumulation outcomes; Column 4 shows the baseline unadjusted estimates shown in Table 10; Columns 3 and 5 show results using the **?** bounded estimator, which consists of trimming the top/bottom of the control/treatment group by the percent difference in attrition rates between the treatment and control groups (the group with the lower attrition rate is trimmed), controls include only the block fixed effects, robust standard errors in square brackets; Columns 1-2 and 6-7 show results using **?** as in **?**, which replace the outcomes of attritors with ±0.x standard deviations of their respective treatment group-survey round means, lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds, controls include the block fixed effects centered and fully interacted with treatment, Standard errors clustered at the club level in parentheses.